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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,293	08/08/2001	Iwao Tahara	01470/LH	3121

1933 7590 03/12/2004

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EXAMINER

TOLEDO, FERNANDO L

ART UNIT	PAPER NUMBER
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2823

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/924,293	Applicant(s) TAHARA ET AL.	
	Examiner Fernando L. Toledo	Art Unit 2823	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13-21 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7, 9-11, 13-16, 19, 20 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 8, 17, 18 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Request for Continued Examination

1. The request filed on 29 September 2003 for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 09/924,293 is acceptable and a RCE has been established. An action on the RCE follows.
2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1 – 3, 6, 7, 9 – 11 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Aoki et al. (U. S. patent 6,545,354 B1)

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention *disclosed but not claimed* in the reference was derived from the

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inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

5. In re claim 1, Aoki, in the U. S. patent 6,545,354 B1; figures 1A – 7B and related text, discloses a semiconductor substrate 11 including a circuit element-forming region 12 in which an integrated circuit is formed, and several of connection pads 13; an organic insulating film 53 formed on the circuit element-forming region; several of columnar electrodes 21 which each have an upper edge surface outwardly exposed for connection to an external device, and which are electrically connected to at least one of several of connection pads (Figures 1A, 2A, 3A, 4A, 5 and 6); at least one thin film passive element 50 including at least one conductive layer 51 formed on the insulating film; and a sealing film 22 which is provided between the columnar electrodes, and which covers the thin film passive element and the semiconductor substrate except for the upper edge surface of each of the columnar electrodes (Figures 1A, 2A, 3A, 4A, 5 and 6).

6. In re claim 2, Aoki, discloses wherein the thin film passive element includes at least one capacitance element 50.

7. In re claim 3, Aoki discloses wherein the capacitance element includes two conductive layers (51 and 55) and a dielectric material layer 53; the two conductive layers are stacked one upon the other on the insulating film, and the dielectric material layer is interposed between the conductive layers (Figure 3A).

8. In re claim 6, Aoki discloses wherein the thin film passive element includes at least one inductance element (Figure 2B).

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9. In re claims 7, 10 and 11, Aoki discloses wherein the inductance element includes one conductive layer having one of an angular eddy shape, a rectangular shape and a loop shape (31a and 31b); the connection pads include at least one first connection pad 13a that is not electrically connected to any of the columnar electrodes and at least one second connection pad 13 electrically connected to at least one of the columnar electrodes, and the inductance element includes at least two terminals (31a and 31b) at least one of which is connected to at least one of the first connection pad and the second connection pad (Figure 2A).

10. In re claim 9, Aoki discloses wherein the thin film passive element includes at least two terminals, at least one of which is electrically connected to one of the columnar electrodes (Figure 2A).

11. In re claim 13, Aoki discloses wherein the at least one thin film passive element includes several of thin film passive elements (Figure 5).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 14 – 16, 19, 20 and 23 – 25 are rejected under 35 U.S.C. 103(a) as being obvious over Aoki.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

In re claim 14, Aoki, discloses preparing a semiconductor wafer substrate 11 including several chip forming regions 14 having a circuit element-forming region 12 in which an integrated circuit is formed, and several of connection pads 13; forming an organic insulating film 53 formed on the circuit element-forming region; forming several of columnar electrodes 21 which each have an upper edge surface outwardly exposed for connection to an external device, and which are electrically connected to at least one of several of connection pads (Figures 1A, 2A, 3A, 4A, 5 and 6); forming several thin film passive element 50 including at least one

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conductive layer 51 formed on the insulating film; and forming a sealing film 22 which is provided between the columnar electrodes, and which covers the thin film passive element and the semiconductor substrate except for the upper edge surface of each of the columnar electrodes (Figures 1A, 2A, 3A, 4A, 5 and 6); exposing only an upper edge surface of each of the columnar electrodes form the sealing film (Figures 1A, 2A, 3A, 4A, 5 and 6).

Aoki does not show dividing the semiconductor wafer substrate into individual chip forming regions so as to form several semiconductor devices each having at least one of the thin film passive elements.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form several devices in one wafer and then diced them, since it will increase throughput of the semiconductor devices.

14. In re claim 15, Aoki discloses wherein the forming of the thin film passive elements 50 includes forming at least one capacitance element.

15. In re claim 16, Aoki discloses wherein the forming of each capacitance element includes: forming a first conductive layer 51 on the circuit element-forming region of the semiconductor substrate; forming a dielectric material layer 53 on the first conductive layer; and forming a second conductive layer 55 on the dielectric material layer.

16. In re claim 19, Aoki discloses wherein the forming of the thin element passive elements includes forming at least one inductance element (Figure 2A).

17. In re claims 20, 23, 24 and 25, Aoki discloses patterning the inductance element includes one conductive layer having one of an angular eddy shape, a rectangular shape and a loop shape (31a and 31b); forming the connection pads include at least one first connection pad 13a that is

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not electrically connected to any of the columnar electrodes and at least one second connection pad 13 electrically connected to at least one of the columnar electrodes, and forming at least two terminals (31a and 31b) at least one of which is connected to at least one of the first connection pad and the second connection pad (Figure 2A).

Claim Objections

18. Claims 4, 5, 8, 17, 18 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

19. Applicant's arguments with respect to claims 1 – 11, 13 – 21 and 23 – 25 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fernando L. Toledo whose telephone number is 571-272-2187. The examiner can normally be reached on Mon-Fri 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

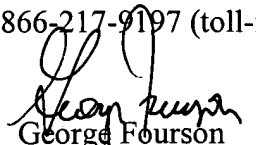
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



FToledo

1 March 2004



George Fourson
Primary Examiner
Art Unit 2823